

Pre high temp processes:

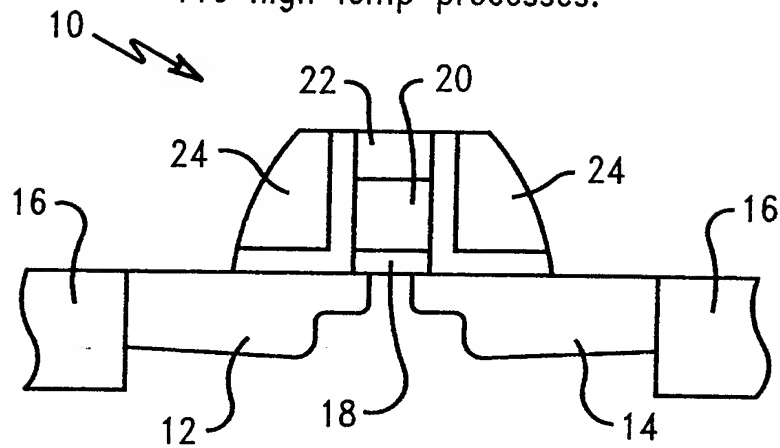


FIG. 1A

Post high temp processes:

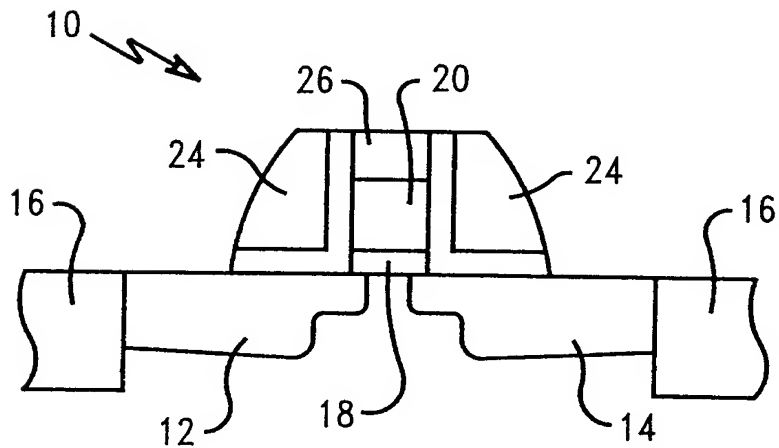
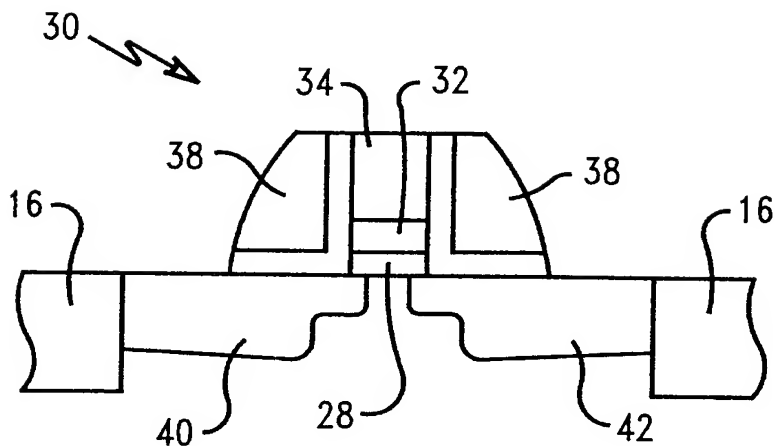
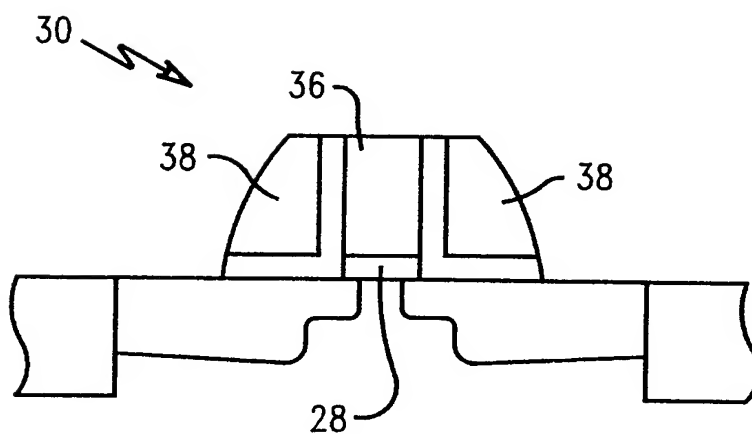


FIG. 1B



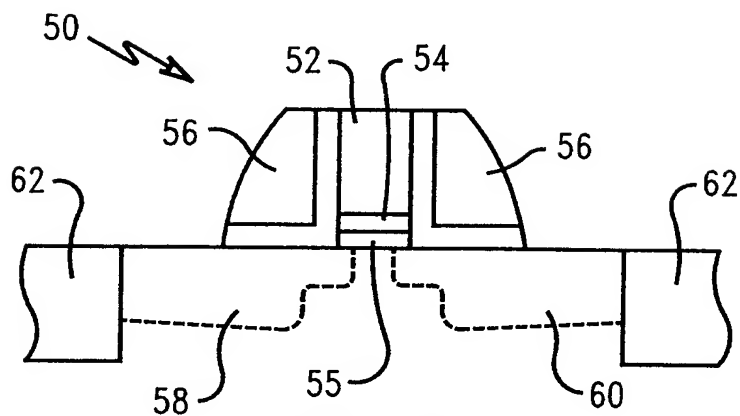
**FIG. 2A**

Pre high temp processes:



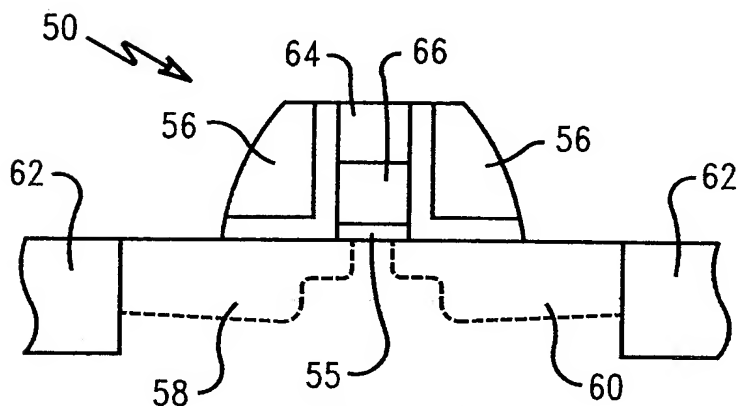
**FIG. 2B**

Post high temp processes:



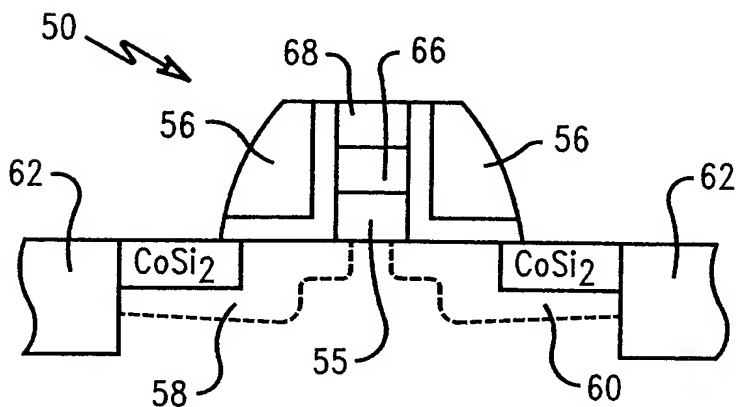
**FIG. 3A**

Pre high temp processes:



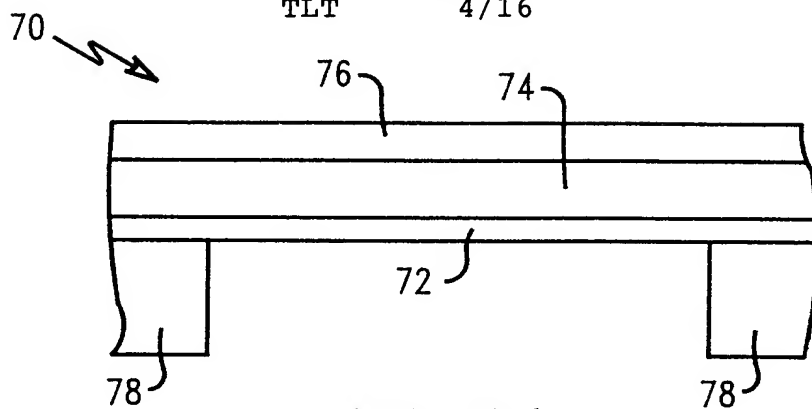
**FIG. 3B**

Post high temp processes:

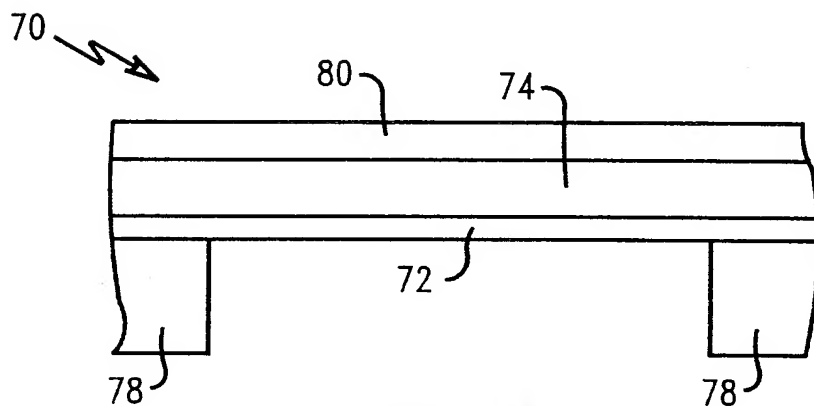


**FIG. 3C**

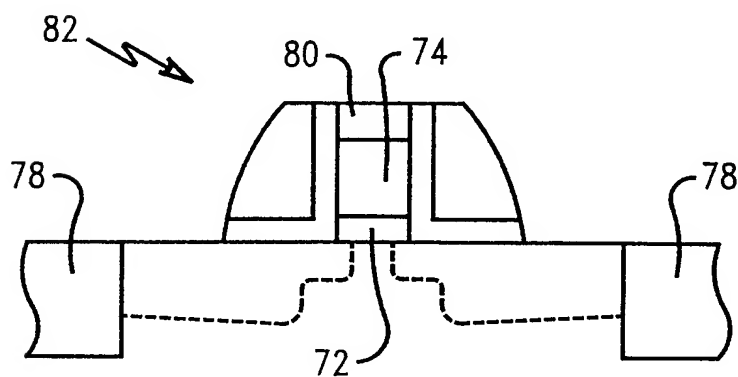
Post source/drain/gate silicide (assumed  $\text{CoSi}_2$ )



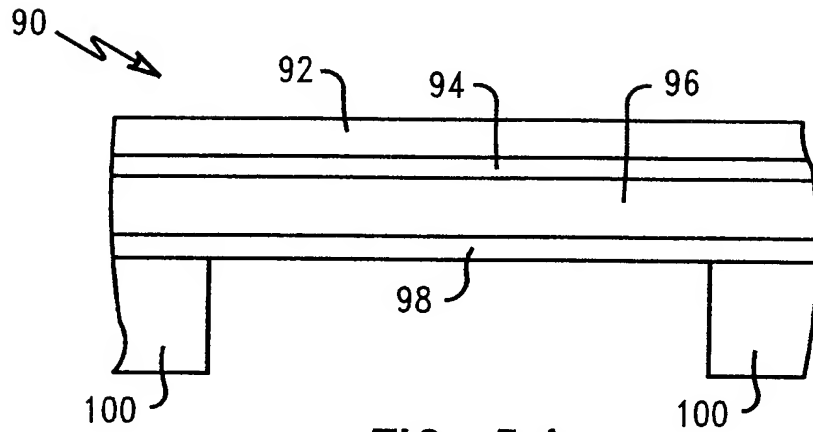
**FIG. 4A**  
Pre silicide formation:



**FIG. 4B**  
Post silicide formation:

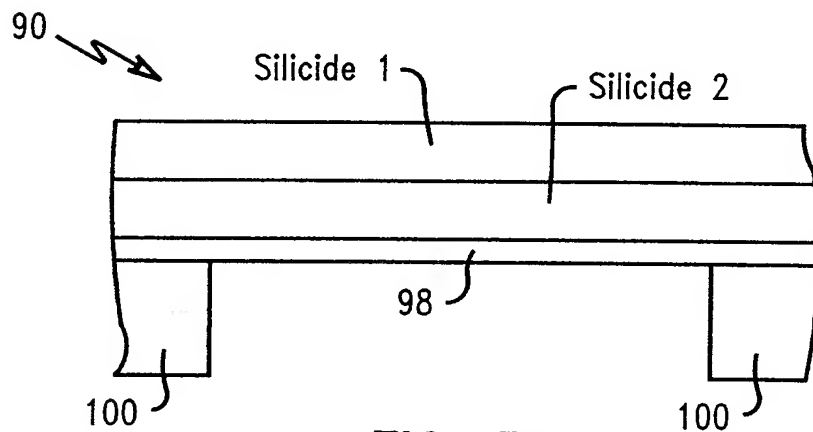


**FIG. 4C**  
Post high temp processes:



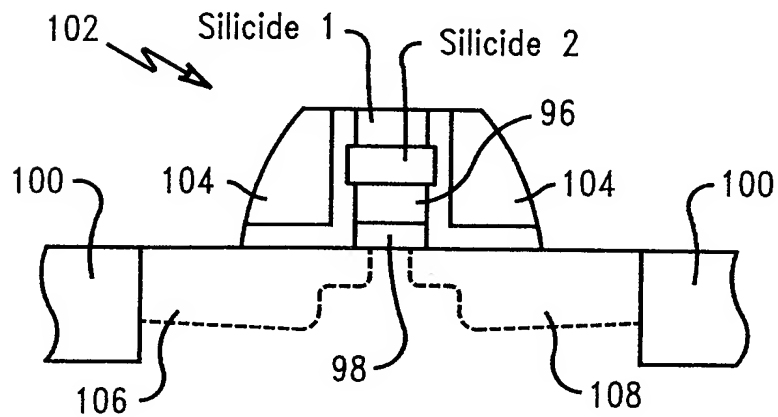
**FIG. 5A**

Pre silicide formation:



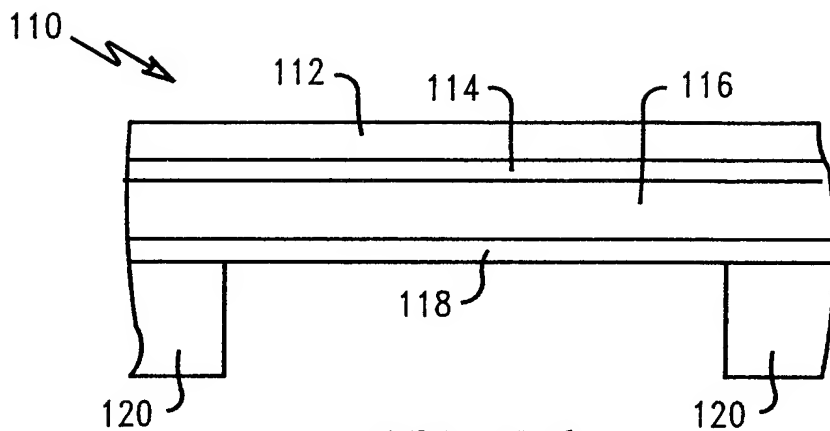
**FIG. 5B**

Post silicide formation:

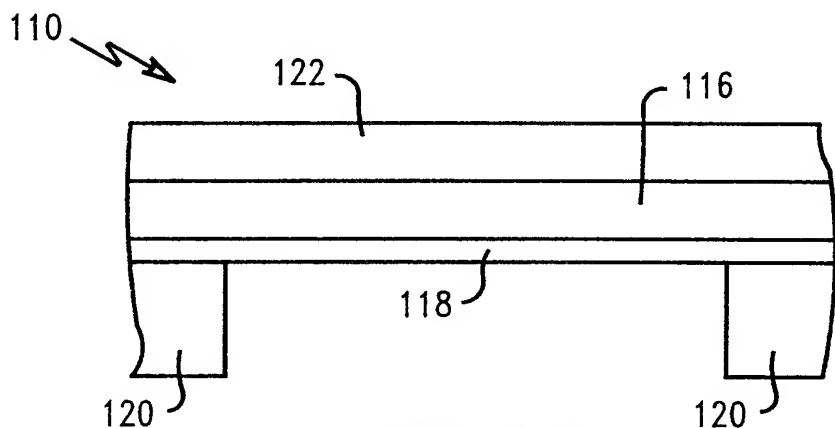


**FIG. 5C**

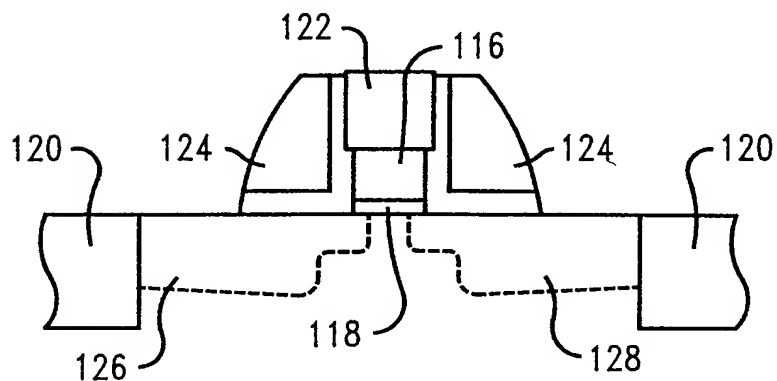
Post high temp processes:



**FIG. 6 A**  
Pre silicide formation:



**FIG. 6 B**  
Post silicide formation:



**FIG. 6 C**  
Post high temp processes:

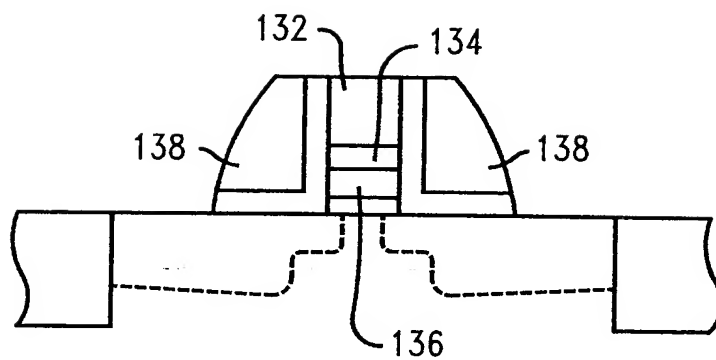


FIG. 7

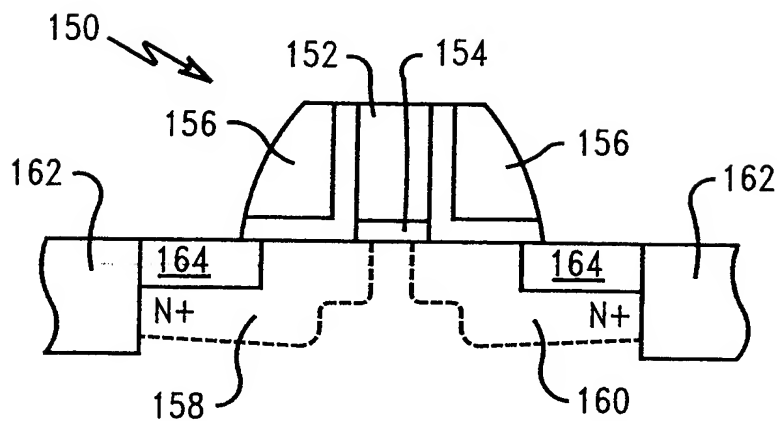


FIG. 8A

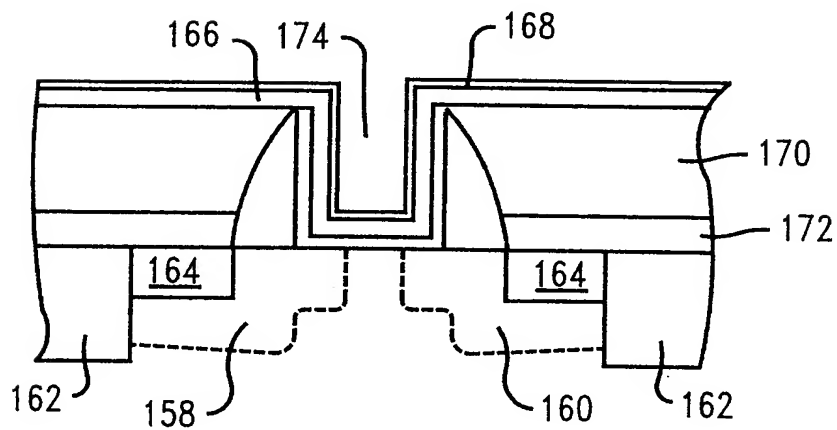


FIG. 8B



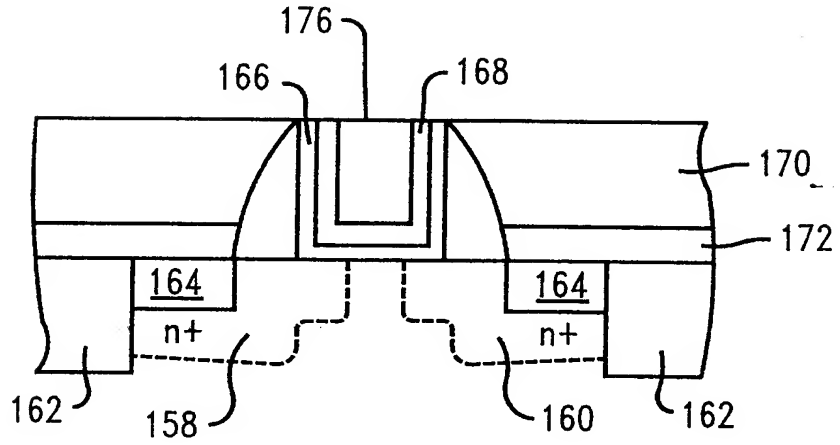


FIG. 8C

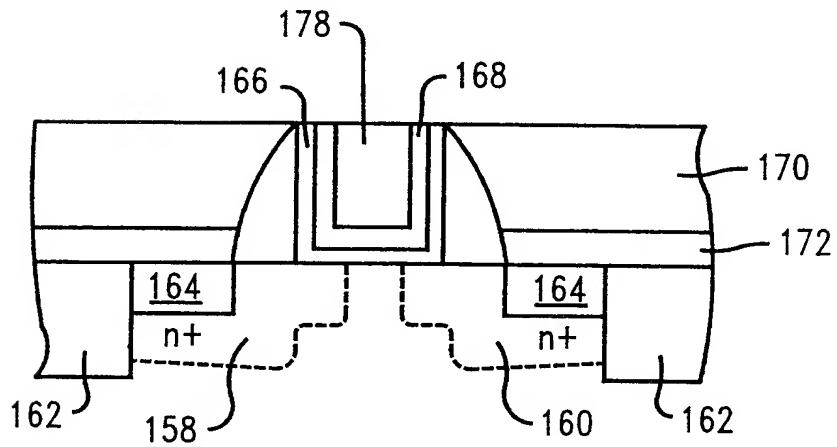


FIG. 8D

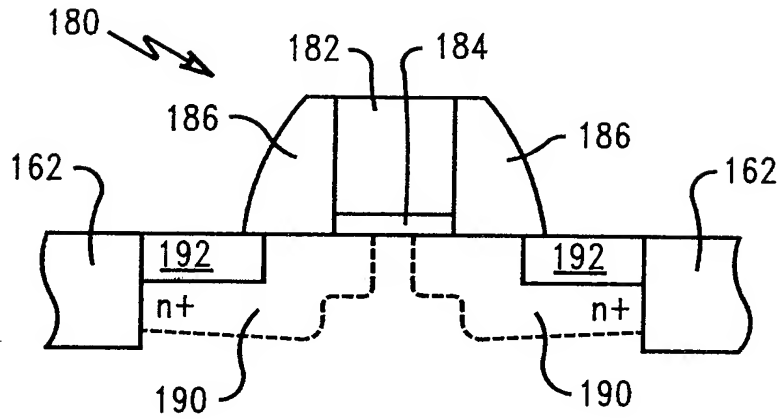


FIG. 9A

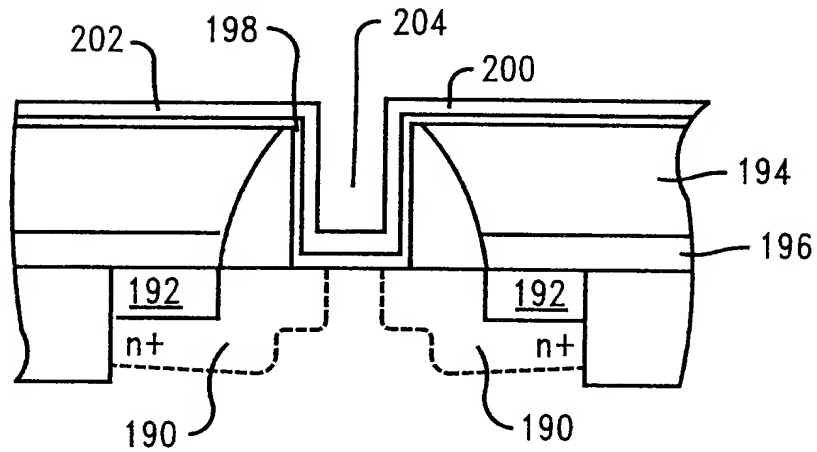


FIG. 9B

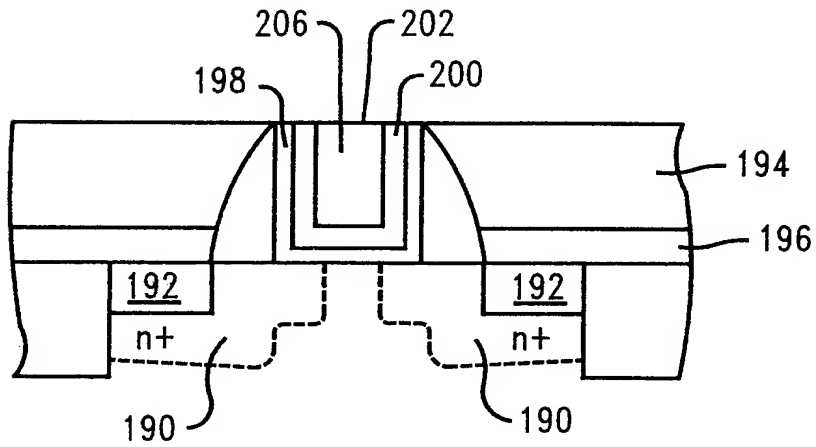


FIG. 9 C

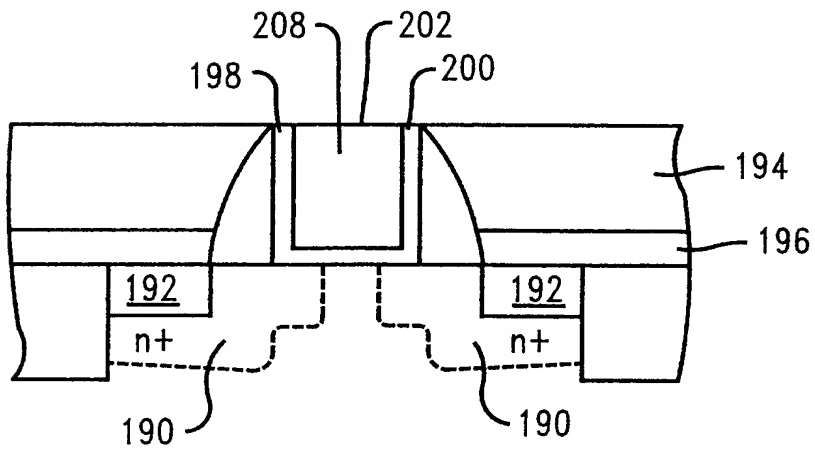


FIG. 9 D

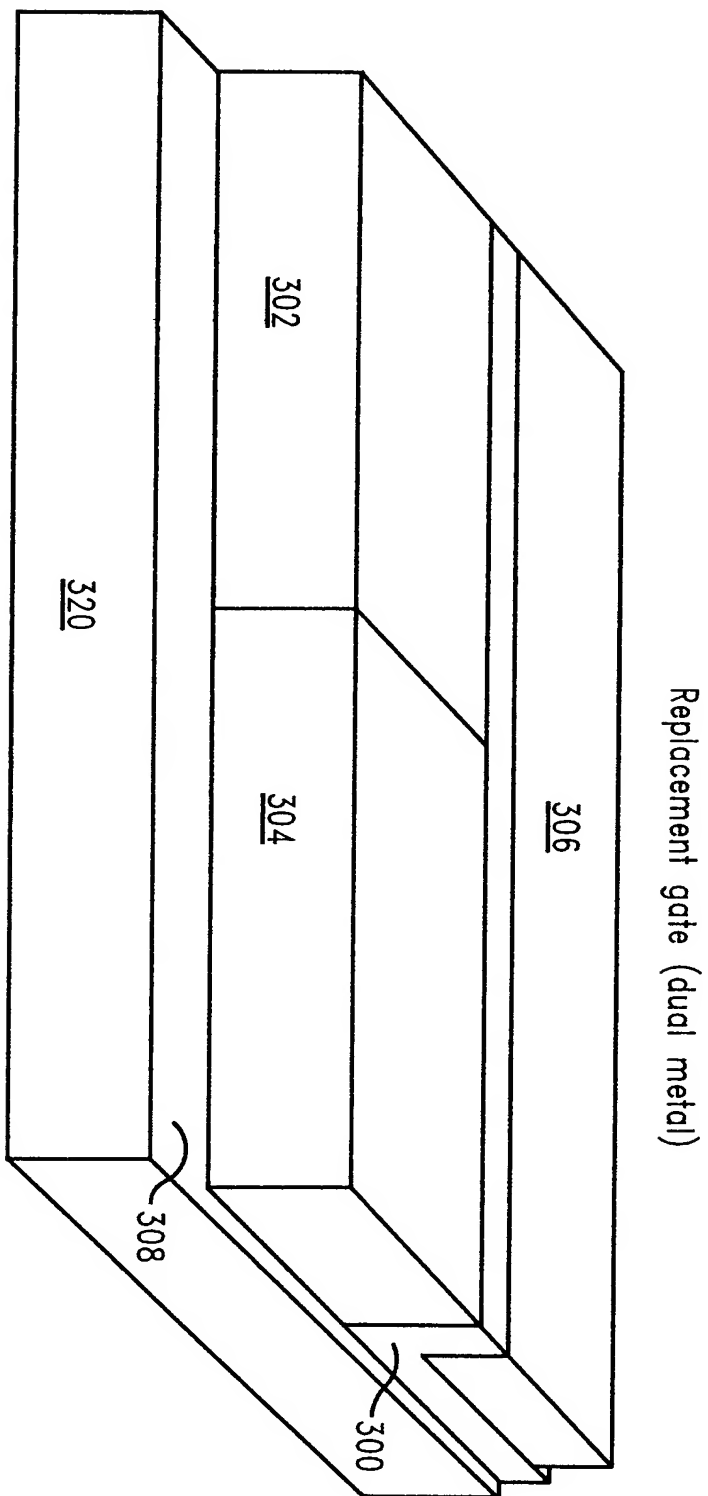


FIG. 10A

Replacement gate (dual metal)  
-> Undoped Poly-Si deposition + CMP

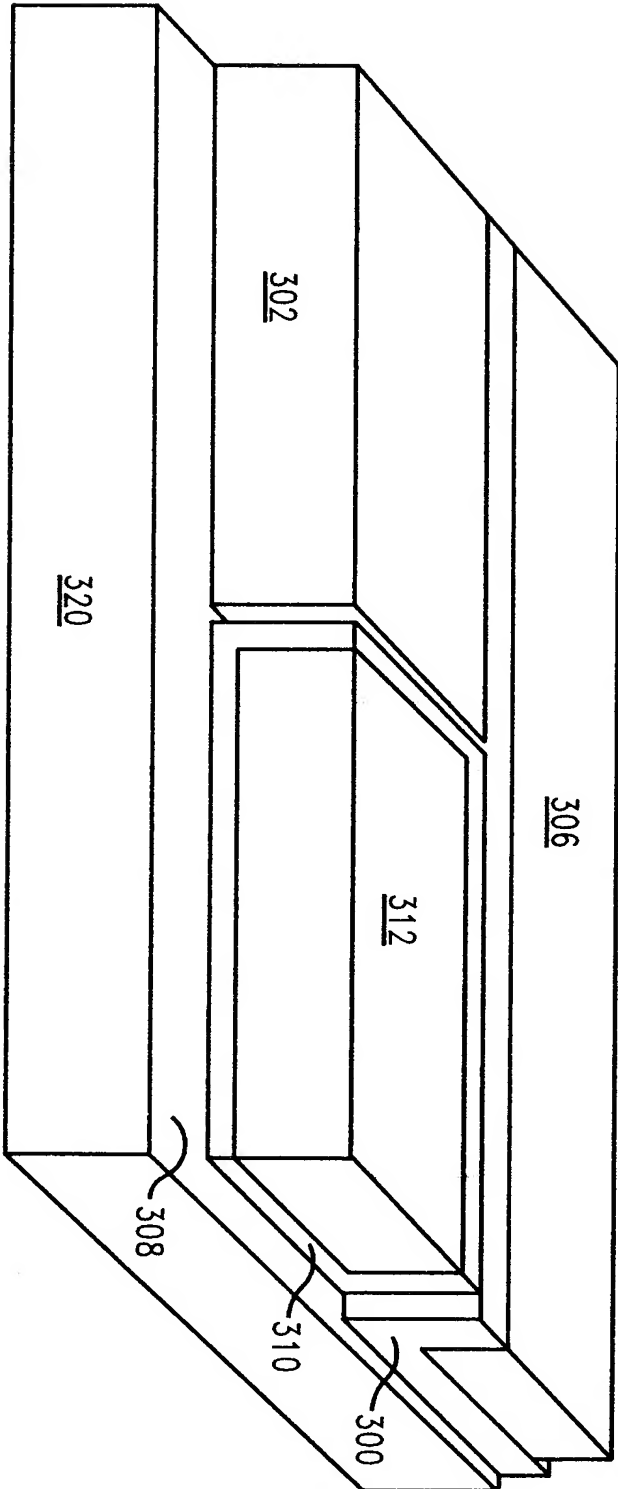


FIG. 10B

-> Undoped Poly deposition + CMP



**FIG. 10C**

Replacement gate (dual metal)  
-> Poly- Si RIE back / CMP

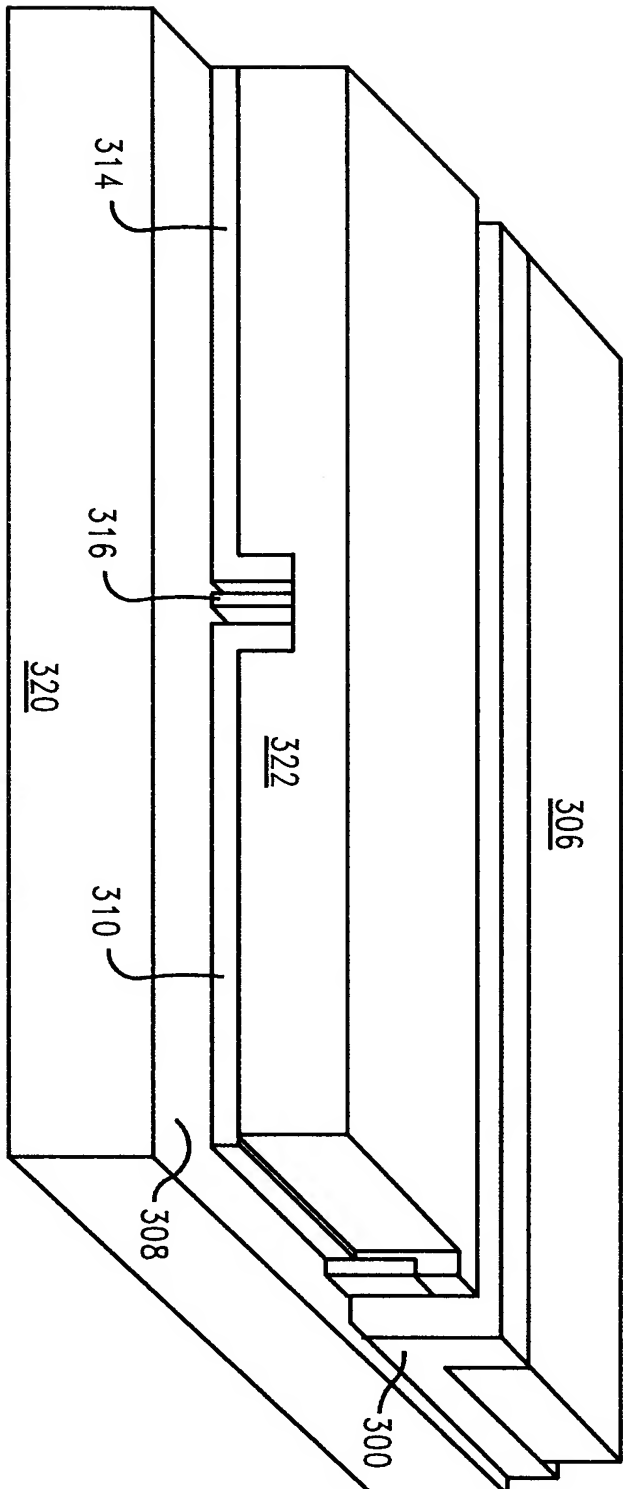


FIG. 10D

Replacement gate (dual metal)  
→ Co-silicidation

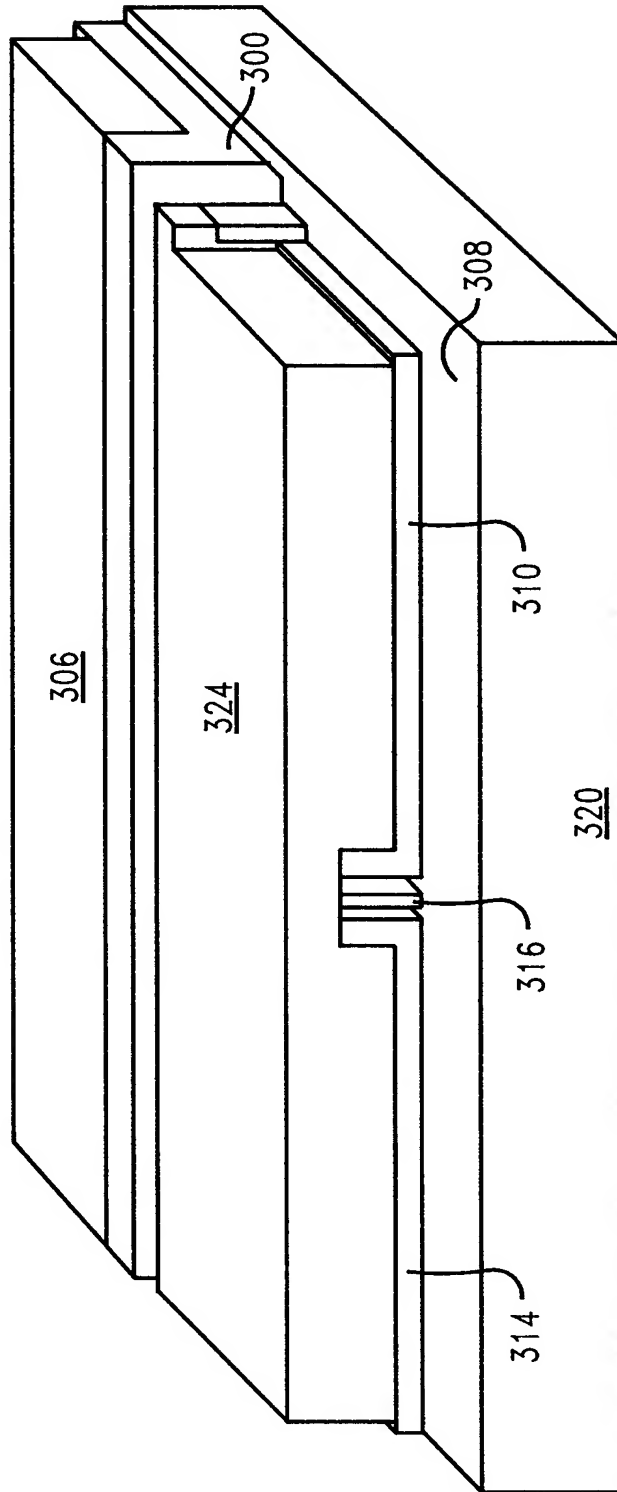


FIG. 10E